

Social Isolation, Sport and Exercise Disruptions, and Impacts on the Elderly as a Vulnerable Group

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Abstract

The COVID-19 pandemic (and the concomitant measures to stop the spread of the virus) has had devastating impacts on the lives of the elderly. There is consensus that the elderly is the most vulnerable group, with high levels of risk and associated disproportionate rates of infections and deaths. There is, therefore, a considerable focus on the health impacts of the virus on the elderly. An important aspect of overall health is also participation in sports and physical exercise activities among the elderly. Limited attention has been paid to how the COVID-19 pandemic has impacted participation in sport. This study draws on secondary sources to examine impacts of the COVID-19 pandemic on the elderly, with a specific focus on their ability to participate in sports and exercise activities, and their social isolation due to severe restrictions on their mobility and closure of facilities. The study also identifies responses, resilience and stigmatization of the elderly and assesses their participation in physical activities despite the challenges faced. Additionally, spaces and ways for the elderly to be physically active such as accessing targeted online classes, guidelines and programmes whilst at home are discussed. The paper concludes that participation in sport and exercise are important for the overall health of the elderly, including addressing social isolation, which needs to be considered during this crisis.

Keywords: COVID-19, elderly, sport and exercise, health impacts, social isolation.

Introduction

We are living in extraordinary times. Some call it the ‘new normal’. To the aged, it is an abnormal situation in the heyday of their lives, and it is a tragedy that they must endure. Globally, countries introduced policy measures to slow the spread of COVID-19, limiting the freedom of movement of their citizens. On the other hand, health experts advised the continuation of exercise during the crisis (Constandt, Thibaut, De Bosscher, Scheerder, Ricour & Willem 2020). In vulnerable populations, especially those over 65 years, lockdown is considered the best option to protect their health (Rodriguez, Crespo & Olmedillas 2020). Lockdown policies vary among different countries, some being more flexible than others to overcome the duality of restricting movement and continuation of physical exercise (Constandt *et al.* 2020) to preserve lifestyles (Rodriguez *et al.* 2020). South Africa was one of the countries that introduced very stringent lockdown rules that restricted the freedom of movement of individuals, constraining sport and exercise activities with little or no consideration for the lifestyle and the value of physical exercise in preventing disease amongst the aged population. This may lead to unforeseen health related problems during and after the lockdown, effecting the well-being of the aged population. The pandemic has clearly revealed the inequalities in the country, making it difficult to apply the rules amongst certain population sectors (for example, residents in the informal housing sector) or vulnerable groups in society. Additionally, the most visible victims are the aged, especially those with some medical or chronic conditions who may be more vulnerable to the COVID-19 virus (United Nations - UN 2020a). There is consensus that the elderly are the most vulnerable group who are prone to high levels of risk and associated disproportionate rates of infections and deaths (Zhang, Wang, Rauch & Wei 2020). This is clearly indicated by the UN Policy Brief 68 which cites the World Health Organisation (WHO) (2020a). They reported that in Europe, 95% of COVID-19 fatalities were persons over 60 years old, highlighting the needs and challenges of the elderly in society (UN 2020a:1). The fatalities amongst the aged could be higher in low income and developing countries with limited resources and poor health care facilities.

There is, therefore, a considerable focus on the health impacts of the virus on the elderly. An important aspect of overall health is also participation in sport and exercise activities among the elderly. Limited attention has been paid to how the COVID-19 pandemic has impacted on this aspect. The imply-

cations of not exercising on an individual's health and well-being during the COVID-19 lockdown are unknown (Zhang *et al.* 2020). According to Zhang *et al.* (2020), evidence indicates that the well-being of quarantined residents during the Severe Acute Respiratory Syndrome (SARS) crisis was affected in a complex manner by reduced mobility. Similar impacts could be experienced during the COVID-19 prolonged lockdown in South Africa, especially amongst the elderly.

This paper draws on secondary sources (peer reviewed and non-peer reviewed) to examine impacts of the COVID-19 pandemic on the elderly, with specific focus on their ability to participate in sport and exercise activities and their social isolation due to severe restrictions on mobility and closure of facilities. The paper also briefly touches on stigmatization of the elderly and identifies responses and resilience among the elderly to ensure that they participate in physical activities despite the challenges faced. Additionally, spaces and ways for the elderly to be physically active such as accessing targeted on-line classes, guidelines and programmes whilst at home are discussed. The paper concludes that sports and exercise participation is important for the overall health of the elderly, including addressing social isolation, which needs consideration during this crisis. Moreover, it recommends further multi-disciplinary studies on the impacts of sport, exercise activities and social isolation on the elderly.

The Elderly as a Vulnerable Group

Despite the implementation of recommended quarantine and lockdown measures being the chosen solution to curb the spread of the virus, secondary effects on other health aspects of the isolated patients may develop. These effects are predominantly observable in those considered high risk of contracting the virus (Jiménez-Pavón, Carbonell-Baeza & Lavie 2020). Previous scholarly literature (for example Fletcher, Landolfo, Niebauer, Ozemek, Arena & Lavie 2018; Honce & Schultz-Cherry 2019; Ozemek, Lavie & Rognmo 2019) on the H1N1 Influenza A Virus pandemic in 2009, indicate that populations with pre-existing health conditions such as chronic lung disease, heart conditions, obesity, diabetes, chronic liver/ kidney disease, hypertension and sarcopenia as well as old age (≥ 65 years of age) are most vulnerable to infectious diseases. Similarly, the WHO (2020a; 2020b) suggest that individuals with underlying health conditions and the elderly are more

susceptible to the COVID-19 virus. Implementing an immediate state of quarantine and lockdown will, in due course, bring about extreme changes in the lifestyle of high-risk individuals. These changes may include, but are not limited to, psychological effects such as confusion, fear, post-traumatic stress symptoms, anxiety, depression, and anger, as well as physical effects because of inactivity (Jiménez-Pavón *et al.* 2020). Due to the shutdown of multiple public services; including gyms, studios and swimming pools, the health of the elderly is being compromised since they are unable to use these facilities for exercise purposes and therefore, may become socially isolated.

Exercise Activities amongst the Elderly

Mooventhan and Nivethitha (2017) state that, in recent years, yoga has become a highly practiced form of exercise among older adults and is effective in improving the quality of life through improved mental (reduced anxiety and depression), emotional (reduced anger, stress and tension), social (improved life satisfaction) and, most importantly, physical (reduced heart rate, blood pressure, fatigue, weakness, mobility, urinary incontinence and flexibility) well-being. According to He, Wei and Can (2018), brisk walking is the easiest form of exercise favoured by the middle-aged and elderly population, which significantly lowered blood pressure in patients with hypertension during exercise of varying intensities. Furthermore, the study indicates that brisk walking was found to reduce the chance of acute cardiovascular conditions in elderly patients (*ibid*). The findings of Nakano (2020) also suggest that light jogging or running among elderly people is significantly associated with a higher quality of life.

According to Hofgaard, Ermidis and Mohr (2020), elderly individuals display a keen interest in activities in which they have had previous experience, such as dancing. Dancing is an activity that enhances social interactions, and irrespective of the style, can improve postural balance, endurance, muscular strength and general fitness amongst the elderly. Regular exercise, especially aerobic activity, promoted mental well-being of the elderly (*ibid*). Moreover, lower risk of dementia and other age associated diseases, were observed in elderly patients who participated more frequently in physical activities that encouraged socialisation and cognitive function (Hekmati Pour & Hojjati 2016; Tyndall, Clark, Anderson, Hogan, Hill, Longman & Poulin 2018). It is possible for the elderly to undertake dancing, aerobic and some physical activi-

ties that do not involve socialisation during the COVID-19 lockdown rules. However, it should be noted that the elderly face age related physical limitations and are unable to enjoy complete well-being (Ruiz-Montero & Castillo-Rodriguez 2016). This, together with a sedentary lifestyle and reduced physical activity may lead to more health problems (Ikezoe, Asakawa, Shima, Kishibuchi & Ichihashi 2013).

United Nations (UN) COVID-19 Related Policy Briefs

In April 2020, the UN (2020b) published a policy brief on the impact of COVID-19 on older persons outlining the risks faced by older persons, namely, life and death, vulnerability and neglect, and impacts on social and economic well-being. According to this brief, persons over 80 years have a five times greater risk of dying of severe diseases when infected by the virus. Additionally, due to underlying conditions, the majority of persons over 70 years, globally (66%) will encounter greater impacts from the virus (UN 2020b: 2). The UN also reports cases of neglect/ mistreatment in nursing homes or older persons locked down with family members confronting violence, abuse and neglect. They also describe precarious conditions (overcrowding, limited access to water, sanitation and health services) in refugee camps, informal settlements and prisons that increases the risk of infection (UN 2020b). Another aspect discussed in the document is social and economic well-being that threatens social networks, access to health services, jobs and pensions through physical distancing and isolation that effects mental well-being. The policy documents elaborate on the impacts discussed above and suggest immediate and long-term policy responses. However, it is evident that the Policy Brief does not specifically focus on the impacts of COVID-19 on the sport and exercise disruptions of the elderly, but they do briefly mention social isolation. This is understandable as it only focuses on broad areas of concern regarding the elderly and the impact of COVID-19 on this cohort.

The UN experience with COVID-19 clearly highlights that most regular aspects of people's lives have been disrupted and this includes exercise, sport and physical activity which has significance, particularly for the elderly (UN 2020c). The UN Policy Brief 73 highlights some of the challenges created by the virus on well-being, physical activity, and sport in general. In addition to providing recommendations to various stakeholders to support the reopening of sporting events, focus is also placed on supporting physical activity during

the COVID-19 crisis (UN 2020c). The latter is relevant to the current discussion in this paper. Sporting events and activities have the potential to cement social cohesion and social and emotional excitement to fans (UN 2020c). Most elderly persons are keen supporters of one or more sports events, actively attending, gathering with friends and strengthening social cohesion or as armchair participants. These activities are now just memories and could have physical, social and emotional/ mental impacts on the aged, since these engagements are key to their sense of identity and purpose.

The closure of sporting facilities resulted in non-participation, outside their homes, in regular sporting activities by individuals and groups; leading to issues such as decreased physical activity, irregular sleep patterns, worsening diets, weight gain, and fitness loss (UN 2020c). The report also raises concerns that the lack of access to routine exercise and sport could affect the immune system, physical health globally, exacerbate existing disease, and have mental impacts (stress, anxiety) due to social isolation (UN 2020c).

There are, however, numerous options available, especially for the aged which include online content, such as free tutorials on stretching, meditation and yoga; videos and audio classes, and fitness demonstrations that incorporate household items instead of specialised equipment (UN 2020c). The problem is that the majority of the aged in developing countries and poor communities do not have access to digital and online platforms and only a minority can benefit. The UN (2020c) policy document suggests that this digital divide can be overcome by radio and television programmes, and printed material distributed to marginalised communities. This should not only be during the COVID-19 pandemic but continued after the crisis for the well-being of those deprived in society.

Social Isolation, Stigmatization, Technology, Exercise and Sport

Lockdown restrictions have disrupted the usual social lives of elderly, isolating them from the public and their loved ones (Aravind 2020). Although there is no consistent or clear definition of social isolation, scholarly literature defines the term isolation as loneliness, with both terms being used interchangeably (Chen & Schulz 2016). Isolation can further be described as an absence of contact with other individuals, such as family, friends, acquaintances, and neighbours (Cotterell, Buffel & Phillipson 2018). According to Chen & Schulz

(2016), social isolation can pose a threat to both the psychological and the physical well-being of the elderly. The results of Chen and Schultz's (2016) research reveal that the effects of social isolation could lead to physical disabilities, increased mortality, depression, self-neglect as well as self-harm (alcoholism, drug abuse and suicide). Moreover, social isolation increases the risk of health problems such as cardiovascular, autoimmune, neurocognitive and mental health problems (Armitage & Nellums 2020).

Although the terms social isolation and loneliness are used interchangeably, it should be noted that they are different concepts and the negative effects of social isolation cannot be applied to all elderly people as they are not a homogenous group. Newall and Menec (2019) found that if the focus is only on social isolation, it fails to observe the differences between the elderly who are socially isolated and lonely compared to the elderly who are socially isolated but not lonely. Portacalone, Perissinotto, Yeh and Greysen (2017) state that those who are isolated but not lonely have high quality existing relationships that align with their needs. These individuals are less likely to suffer from long-term effects of social isolation when compared to the elderly who are socially isolated and lonely because they live alone.

Aged-based discrimination against the elderly such as increased isolation and human rights violations was widespread during the pandemic due to public discourses that portrayed COVID-19 as an elderly persons' disease (UN 2020a). The remarks and hate speech targeting older persons emerging in public discourses and on social media expresses intergenerational resentment (UN 2020d). Thus, the COVID-19 pandemic is entrenching ageism, stigmatization and negative stereotyping of this population cohort (UN 2020a). The crisis has revealed ingrained ageism and age stereotyping ((Morrow-Howell, Galucia and Swinford 2020). According to a policy brief by WHO, UNICEF and IFRC (2020:1), 'social stigma in the context of health is the negative association between a person or group of people who share certain characteristics and a specific disease. In an outbreak this may mean that people are labelled, stereotyped, discriminated against, treated separately, and /or experience loss of status because of a perceived link with a disease'. This type of treatment can have a negative effect on a wide range of individuals especially the elderly whose social cohesion could be undermined, and their social isolation increased (ibid). Breakdown and sometimes, loss of social networks could drastically influence the mental and psychological needs of the elderly impacting social well-being, physical and mental health (WHO, UNICEF and

IFRC 2020; UN 2020 d). In general, it is clear, that the attitudes and actions during the pandemic demonstrate reduced concern for older people and ignores the value that they have and their contribution to society (Morrow-Howell *et al.* 2020). During the pandemic, stigmatization, stereotyping and other negative affects of the elderly could reduce the physical and sporting activities of older persons and add to other underlying health problems they experience.

To overcome the barriers of social isolation during the lockdown, technology can be used with communication and online activities. This can be in the form of texts as well as audio and video calls. Online fitness classes provide a solution to more than just exercise. Additionally, these classes indirectly dismiss the feeling of social isolation, as well as provide hope, comfort and support for people living with chronic ailments and old age (Helmich & Bloem 2020). Chen and Schulz (2016) claim that the use of technology creates a sense of empowerment among older people as it provides them with new skills, allows them to stay socially active, connects them to information and makes them feel young. Furthermore, the use of technology gives rise to self-confidence which in turn creates feelings of positivity toward themselves, their control over life and overall life satisfaction (Chen & Schultz 2016).

In some developed and low income and developing countries access to technology is limited. This could be due to such reasons as socio-economic status, education or other related reasons. According to the UN (2020a), research from the United Kingdom indicates that over 50% of the aged 75 years and above have never used the internet. Similarly, in the United States of America, one third of adults 65 years and above never used the internet (UN 2020a). The technological divide is intensified in low income and developing countries and will affect the use of internet and other social media platforms, by the elderly, for exercise during the COVID-19 pandemic, even if they are available. It is apparent that the lockdown policies did not adequately consider the technological divide challenges faced by the elderly. There is a need to acknowledge and incorporate the conditions and realities of older persons in COVID-19 responses during and post the pandemic in order to improve their well-being and health outcomes (UN 2020a).

Responses and Resilience among the Elderly

During the lockdown, all sporting facilities are closed, depriving individuals from participating in regular sporting activities outside their homes leading to

loss of physical fitness and weight loss and in some cases weight gain (UN 2020c). Much time is spent in a sedentary state during lockdown restrictions and, as Taylor (2014) notes, it is vital that indoor exercise regimes are created and set as a priority for the elderly. A study by Constandt *et al.* (2020) in Belgium, reported that those over 55 years exercised less during the lockdown because they sat more, missed familiar ways and the competitive element of exercising that they normally engaged in.

Lockdown rules tend to negatively affect low income families more than others because of the limited space and substandard homes. Confined spaces make it difficult to exercise. According to the UN Policy Brief 73, the WHO recommends 150 minutes of vigorous-intensity physical activity per week, which helps in times of crisis, fear and anxiety (UN 2020c). During the pandemic, a sedentary lifestyle with lack of exercise can exacerbate existing health conditions, effect physical and mental health and, compromise the immune system (UN 2020c).

It is still possible to exercise at home without any equipment by stretching, doing housework, climbing stairs, dancing, strength training, or using resources available on the internet using household items (UN 2020c). Generally, a person requires 150 minutes per week of moderate intensity aerobic exercise spread out over 3-5-day 30-minute sessions (Taylor 2014). The elderly individuals should also undertake resistance-training exercises, which include 8 to 10 exercises done in sets of 1 to 3 and in repetitions of 10 to 15 per set, at least two times per week (Taylor 2014). Bodyweight exercises may be the best type of exercise to perform currently as many lack training equipment at home. However, the floor, wall and chairs could be used to perform bodyweight exercises (Suzuki, Iijma, Tashiro, Kajiwarra, Zeidan, Shimoura, Nishida, Bito, Nakai, Tatsumi & Yoshimi 2019). According to Laki-cevis, Moro, Paoli, Roklicer, Trivic, Cassar and Drid (2020), to ease the elderly into home exercise regimes, chair-assisted exercises, which enhance balance, strength, range of motion and coordination can be used. Standing exercises that can be done include knee bends, hamstring press backs and achilles stretches. Simple floor or wall exercises such as wall-sits, wall-crawls, wall-push-ups and hip tucks, can also be included into exercise routines (Lakicevic *et al.* 2020). The discussion shows that unless physically distressed or suffering from ailments that do not permit physical activity, there are options at home that enable the elderly to be active. However, many elderly persons may be unfamiliar that there are simple activities they can participate in while indoors

and while restrictions are in place. As restrictions ease, walking while ensuring that social distancing protocols are adhered to, can also be undertaken.

Health Impacts on the Elderly

Some of the health impacts of COVID-19 and the lockdown restrictions have been mentioned in the previous discussion. A more detailed analysis is undertaken below.

Worsening health, physical function reduction, acceleration of the normal ageing process and loss of independent living result from decreased physical activity (Wackerhage, Everett, Krüger, Murgia, Simon, Gehlert, Neuberger & Baumert 2020). This could be overcome by resistance and balancing exercises, and a social element to reduce anxiety and depression, which should be implemented at an early stage to benefit the elderly during the COVID-19 lockdown (Wackerhage *et al.* 2020). Moreover, there is much concern on the effects of physical inactivity by the elderly on immune function and their body's ability to combat both viral and bacterial infections. The growing body of immunology literature (for example, Brolinson & Elliot 2005; Karacabey, Saygin, Ozmerdivenli, Zorba, Godekmerdan & Bulut 2005; Laddu, Lavie, Phillips & Arena 2020; Simpson, Campbell, Gleeson, Krüger, Nieman, Pyne, Turner & Walsh 2020; Simpson, Lowder, Spielmann, Bigley, LaVoy & Kunz 2012) contend that the immune system is highly responsive to exercise. Exercise and immune health need to be taken into special consideration in older adults as they comprise a growing population who are most susceptible to contracting infectious diseases such as COVID-19 (Simpson *et al.* 2020; WHO 2020a).

Kochanek, Murphy, Xu and Arias (2019) point out that influenza and pneumonia fall within the top ten major causes of death among adults over 65 years. Thus, it is important to maintain functioning of the immune system through exercise, during the ageing process. An extended period of physical inactivity may also compromise vitality resulting in cardiovascular disease, obesity, metabolic deficiencies, and weakness (Hofgaard *et al.* 2019; Upadhyay, Farr, Perakakis, Ghaly & Mantzoros 2018). Immunosenescence is a term used to describe the phenomenon caused by gradual deterioration of the immune system as age increases (Laddu *et al.* 2020). Campbell and Turner (2018) distinguished that regular participation in moderate intensity exercises significantly reduces the effects of age-related oxidative stress. Oxidative

stress is defined as the imbalance between an enhanced reactive oxygen/nitrogen species and the lack of protective ability of antioxidants (Ozsurekci & Aykac 2016). Exercise increases immunity and delays immunosuppression and the risk of possible infection (Ozsurekci & Aykac 2016). Participation in regular exercise, among elderly individuals, assists immunity and enhances the system's response to vaccinations (Laddu *et al.* 2020). Physical activity and exercise have been demonstrated to be compelling treatment for chronic diseases amongst the elderly, with positive effects on both mental and physical well-being (Ozemek *et al.* 2019; Fletcher, *et al.* 2018; Ozemek, Laddu, Lavie, Claeys, Kaminsky, Ross, Wisloff, Arena & Blair 2018). It could thus be used as a coping mechanism during the COVID-19 pandemic. Therefore, it remains important that the elderly take care of their lifestyles by engaging in and practicing physical exercise. Given the beneficial impacts of physical activity on the quality of human life, greater efforts are clearly necessary to encourage sport and exercise among the high-risk older population cohorts (Hofgaard Ermdis & Mohr 2019; Upadhyay *et al.* 2018; Gaetano 2016), particularly during the COVID-19 lockdown.

Conclusion

The COVID-19 lockdown has disrupted the lifestyle of the elderly. It has and will continue to affect the health, wellbeing and social life of older persons due to them being isolated, discriminated and stigmatized. More specifically, it has radically changed the way the aged exercise and participate in sporting activities that are primary and essential pillars of a healthy lifestyle (Laddu Lavie, Phillips & Arena 2020). A major challenge is the management of exercise and sporting activities amongst this population cohort given that they are more vulnerable than other individuals and has received inadequate attention (Serafini, Bondi, Locatelli & Amore 2020). To preserve the fitness levels amongst the elderly, it is necessary to introduce simple and safe home exercise programmes that can be implemented easily (Halabchi, Ahmadinejad & Selk-Ghaffari 2020; Serafini *et al.* 2020). The reduction of sedentary behaviour (not sitting for long hours) is critically important (Serafini *et al.* 2020). The simplest course of action by the elderly is to avoid prolonged sedentary behaviour, be active and take breaks at home to overcome some of the adverse effects of the lockdown. Moreover, outdoor exercise programmes could be adapted and modified to suit indoor conditions (Rodriguez *et al.*

2020). Specific risks confronted by the elderly needs to be monitored and addressed (UN 2020d). As much as possible measures should be taken by the public authorities to decrease the social isolation of the elderly to minimise the many health risks it causes. This could be achieved by careful planning during crisis situations such as the current COVID-19 pandemic (Valenzuela 2020), taking into consideration the realities faced by the elderly and the structural weaknesses in South African society. Finally, knowledge on the effects of exercise and sports during the COVID-19 lockdown is limited and there is an urgent need for well-designed, comparative, multidisciplinary empirical studies to inform public policy. As soon as the threat of the coronavirus is over and conditions permit primary research and data collection, case studies in communities should be undertaken that examine how the elderly have been impacted by the pandemic and their responses on how interventions can be put in place to ensure their improved health and well-being.

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